UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/823,197 | 03/29/2001 | Winston W. Hodge | COAX 01.004 | 1233 |

7590 03/14/2005

Michael A Kerr
Virtual Legal
777 E William St Suite 211
Carson City, NV 89701

| EXAMINER | |
|---|---|
| AKLILU, KIRUBEL | |
| **ART UNIT** | **PAPER NUMBER** |
| 2614 | |

DATE MAILED: 03/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/823,197 | HODGE ET AL. | |
| | Examiner | Art Unit | |
| | Kirubel Aklilu | 2614 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *29 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/27/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Specification*

- The disclosure is objected to because of the following informalities: Line 10 of page 5 has a typographical error. The term "thos" should be corrected to mean "those". Line 10 of page 10 also contains a typographical error. The term "Interner" should be corrected to "Internet".

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims **6,16,26, and 36** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6,16,26, and 36 recite the limitation "said downstream modulator" in page 37 line 1, page 39 line 13, page 42 line 3, and page 44 lines 13. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

((b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **1-7, 11-17, 21-27, and 31- 37** are rejected under 35 U.S.C. 102(b) as being anticipated by Hylton et al. (U.S. Patent # 5,708,961).

1. As for **Claim 1**, Hylton teaches a programmable broadband downstream module (see Fig. 1 units 5, 10 and 100; col. 4 lines 54-64 "Fig. 1 is a block diagram of a system for supplying broadband signals and possibly narrowband signaling information from a digital network 5 to a number of set-top terminals 100 . . ."), comprising:

a bus interface (see fig 1 unit 10 and 5. The input interface from the digital broadband network 5 into the shared processing system 10 is interpreted to act as a bus interface. See col. 5 lines 42-44 "the shared processing system 10 receives a plurality of channels from the network 5") configured to receive a plurality of control data packets (see col. 6 lines 5-17 "The packets in the multiplexed stream include identifiers. If the network 5 utilizes a similar packet technology and the identifiers are compatible, the program selector and

multiplexer may pass the packets through without modification of the packets or the identifiers contained within." The packet identifier are interpreted to be control data packets) and a plurality of transport packets (see col. 5 lines 49-51 "Each channel received from the network 5 includes a digital stream containing a plurality of digitized and compressed broadband programs, such as audio/video programs . . ." and col. 10 lines 61-62 "Each frame of compressed audio or video program information is broken down into a series of transport packets"), said plurality of transport packets including:

a plurality of video transport packets (see col. 5 lines 49-51 "Each channel received from the network 5 includes a digital stream containing a plurality of digitized and compressed broadband programs, such as audio/video programs . . .") communicated asynchronously (see col. 5 lines 54-55 "In a second preferred embodiment, the digital stream is an asynchronous transfer mode"), a plurality of data transport packets communicated asynchronously (see col. 12 line 67 – col. 13 line 4 "The audio, video, and data packets for each program are inserted in the stream as the multiplexer receives and compiles . . ."), and a plurality of voice transport packets communicated asynchronously (see col. 32 lines 32-39 "Figs 8A and 8B together show an example of a switched digital video type network connected to an on-premise distribution system in accord with the present invention. The illustrated network provides transport for broadband services including broadcast video and IMTV type services, such as video on

demand. The network also provides interactive text services and voice telephone services");

a programmable CPU operatively coupled to said bus interface (see fig. 1 unit 10 Shared Processing System, col. 5 lines 13-48 states therein, "The system 10 may connect to a number of different types of digital broadband networks 5, including hybrid fiber coax networks, switched digital video type fiber to the curb networks and wireless digital broadcast networks . . .Different types of networks 5 will utilize different transport protocols and signal formats. The shared processing circuitry will include appropriate elements to receive such signals from the particular network and convert the relevant information to a standard format receivable by the terminals 100 . . .In accord with the present invention, the shared processing system 10 receives a plurality of channels from the network 5. In one preferred embodiment, the channels are frequency multiplexed broadband RF channels . . .in another embodiment, these channels are time division multiplexed digital channels". Since the shared processing unit 10 is able to function with different types of broadband networks by receiving different transport protocols and signals formats and convert the relevant information to a standard format receivable by the terminals, the shared processing system 10 is programmable.), said programmable CPU configured to combine said plurality of transport packets to generate a programmable CPU output (see fig. 1 unit 15 MUX, col. 6 lines 5-15 "the multiplexer 15 combines the packets for all of the selected programs into one digital transport stream". The

digital transport stream output of MUX 15 is interpreted to be a programmable CPU output); and

a programmable logic (see fig. 1 unit 102 DET, and col. 17 lines 7-17 "In the preferred embodiments, the digital entertainment terminal (DET) 102 is programmable device to which different individual video information providers (VIP's) can download application software . . .") operatively coupled to said programmable CPU, said programmable logic configured to generate a synchronous output for said plurality of transport packets (see fig. 1 unit 102 DET and fig. 4 unit 110 Microprocessor, col. 14 line 66 – col. 15 line 9 "The MPEG video decoder 129 decompresses received video packet signals to produce a digital video signal, and the MPEG audio decoder 131 decompresses received audio packets to produce left and right digitized stereo signals. For at least some functions, the MPEG decoders 129, 131 may be controlled in response to signals from the microprocessor 110." The output video and audio data from the DET is inherently synchronous because the video and audio data is presented synchronously to the user. The PID data inherently associated with the MPEG video and audio files are interpreted to be the data packets of the transport stream.).

2. As for **Claims 11, 21, and 31**, the limitations fall within the limitation of Claim 1. Claims 11, 21, and 31 are analyzed and rejected as previously discussed with respect to Claim 1.

3. As for **Claims 2, 12, 22, and 32**, Hylton teaches a downstream modulator configured to receive and modulate said synchronous output for downstream transmission, said downstream modulator configured to generate a downstream modulator output (see fig.4 unit 139 RF modulator, see col. 16 1-19 "In response, the DAC's 134L and 134 R produce baseband analog audio signals for output to individual baseband output terminals. The mixer 136 combines the left and right analog audio signals to produce a monaural audio signal as the audio input to RF modulator 139. . . The baseband NTSC signal is also supplied to the RF modulator 139. The RF modulator 139 responds to the mono audio signal, the NTSC video signal and an RF signal from a local RF oscillator 141, to produce a selected standard RF television signal on an available TV channel, typically channel 3 or channel 4"). The Packet identifiers (PIDs) that are inherently present in the MPEG video and audio streams are interpreted to be the data transport packets

4. As for **Claims 3, 13, 23, and 33**, Hylton teaches an up-converter operatively coupled to said downstream modulator, said up-converter configured to generate a particular RF frequency output for said downstream modulator output (see fig. 4 unit 141 RF OSC, col. 16 lines 13-19 "The RF modulator 139 responds to the mono audio signal, the NTSC video signal and an RF signal from a local RF oscillator 141, to produce a selected standard RF television signal on an

available TV channel, typically channel 3 or channel 4". It is interpreted that the RF oscillator is an up converter operatively coupled to said downstream modulator (RF modulator 139) to generate the particular RF frequency used to modulate the video, audio and data streams).

5. As for **Claims 4, 14, 24, and 34**, Hylton teaches a CPU memory support module operatively coupled to said programmable CPU, said CPU memory support module configured to provide memory resources for said plurality of control data packets and said plurality of transport packets (see fig. 1 unit 19 Controller, col. 8 lines 46-59 "The controller 19 stores a program map for the programs carried on the particular network 5." It is interpreted that Controller 19 acts as a memory support module by storing a program map for the programs carried on the network 5. And as described above with respect to the limitations of Claim 1, said plurality of control packets and plurality of transport packets make up the programs carried on the particular network 5).

6. As for **Claim 5, 15, 25, and 35**, Hylton teaches a memory module operatively coupled to said programmable logic, said memory module configured to act as a buffer and store said plurality of transport packets and said plurality of control data packets (see Fig. 4 unit 129 MPEG Video Decoder, col. 15 lines 4-8 "The MPEG video decoder 129 will internally include at least two frames (e.g. 8 mbytes) of RAM for use as a frame reorder buffer during the MPEG video

decoding process, and the MPEG audio decoder 131 also may include some buffer memory").

7. As for **Claim 6, 16, 26, and 36**, Hylton teaches an encryption circuit operatively coupled between said programmable logic and said downstream modulator, said encryption circuit configured to encrypt said synchronous output (see col. 25 lines 60-64 "Certain digital program signals carried on the network may be encrypted using encryption technology and key codes. Details of specific encryption algorithms, the key codes are well known to those skilled in the art and familiar with the relevant patents and literature. An ACC 4000 331 performs set top management, encryption control and specific program access control functions. The ACC 4000 responds to instructions from the Access sub network Controller 417 to administer encryption and terminal device operations and control.").

8. As for **Claim 7, 17, 27, and 37**, Hylton teaches said plurality of transport packets are a plurality of MPEG-2 transport packets (see col. 10 lines 46-51 "The MPEG II standard provides a standardization format for packetizing the compressed audio and video information and for other data. The preferred networks 5 supply MPEG II packet streams to the shared processing system 10.").

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 8-10, 18-20, 28-30, and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hylton et al. (U.S. Patent # 5,708,961) in view of Chen et al. (U.S. Patent # 5,666,362).

9. As for Claims **8, 18, 28, and 38**, the claims differ in that Hylton does not expressly teach said programmable CPU is configured to perform bit-stuffing. Hylton does however teach insertion of data control into plurality of MPEG-2 transport packets (see col. 6 lines 5-17 "The packets in the multiplexed stream include identifiers. If the network 5 utilizes a similar packet technology and the identifiers are compatible, the program selector and multiplexer may pass the packets through without modification of the packets or the identifiers contained therein. Alternatively, the multiplexer may insert new identifiers assigned to the individual terminals serviced by the shared processing system 10". The step of inserting new identifiers is interpreted to mean insertion of control data). Chen et al. however teach a method of transmitting control data in asynchronous and

synchronous communication system (see Chen et al: col. 4 lines 37-63 "Among the higher-layer issues that a converter such as applicant's invention must handle is translating the manner in which control codes are transmitted in asynchronous and synchronous communications. . ." and col. 5 lines 31-55 "According to the most common synchronous communication protocols, "bit stuffing" occurs as follows . . ."). In light of the teaching of Chen et al, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Hylton to have the programmable CPU perform bit-stuffing. One of ordinary skill in the art at the time the invention was made would have been motivated to do this in order to provide a method for distinguishing in a data stream a bit that is control code data from a bit that is part of the data bit pattern (see Chen et al. col. 4 lines 58-63 "The protocol, therefore, must provide a method for distinguishing in a data stream when a particular bit is simple part of the data versus when it is a control code. In asynchronous communication, that method is referred to as "byte stuffing"; in synchronous communication, that method is referred to as "bit stuffing"" "Byte stuffing" is interpreted to have the same meaning as "Byte insertion").

10. As for **Claim 9, 19, 29, and 39**, Hylton teaches said programmable CPU is configured to provide for insertion of control data into said plurality of MPEG-2 transport packets (see col. 6 lines 5-17 "The packets in the multiplexed stream include identifiers. If the network 5 utilizes a similar packet technology and the

identifiers are compatible, the program selector and multiplexer may pass the packets through without modification of the packets or the identifiers contained therein. Alternatively, the multiplexer may insert new identifiers assigned to the individual terminals serviced by the shared processing system 10". The step of inserting new identifiers is interpreted to mean insertion of control data).

11. As for Claims **10, 20, 30, and 40**, the claims differ in that Hylton does not expressly teach said programmable CPU is configured to perform byte insertion. Hylton does however teach insertion of data control into plurality of MPEG-2 transport packets (see col. 6 lines 5-17 "The packets in the multiplexed stream include identifiers. If the network 5 utilizes a similar packet technology and the identifiers are compatible, the program selector and multiplexer may pass the packets through without modification of the packets or the identifiers contained therein. Alternatively, the multiplexer may insert new identifiers assigned to the individual terminals serviced by the shared processing system 10". The step of inserting new identifiers is interpreted to mean insertion of control data). Chen et al. however teach a method of transmitting control data in asynchronous and synchronous communication system (see Chen et al. col. 4 lines 37-63 "Among the higher-layer issues that a converter such as applicant's invention must handle is translating the manner in which control codes are transmitted in asynchronous and synchronous communications. . ." and col. 4 line 64- col. 5 line 30 "According to the most common asynchronous communication protocols,

"byte stuffing" occurs as follows . . ."). In light of the teaching of Chen et al, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Hylton to have the programmable CPU perform byte stuffing. One of ordinary skill in the art at the time the invention was made would have been motivated to do this in order to provide a method for distinguishing in a data stream a bit that is control code data from a bit that is part of the data bit pattern (see Chen et al. col. 4 lines 58-63 "The protocol, therefore, must provide a method for distinguishing in a data stream when a particular bit is simple part of the data versus when it is a control code. In asynchronous communication, that method is referred to as "byte stuffing"; in synchronous communication, that method is referred to as "bit stuffing"" "Byte stuffing" is interpreted to have the same meaning as "Byte insertion").

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirubel Aklilu whose telephone number is 571-282-7342 . The examiner can normally be reached on 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on 571-282-7353 . The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K/A
03/07/2005

NGOC-YEN VU
PRIMARY EXAMINER